

Remarks/Arguments

The Examiner is thanked for the courteous telephone interview granted Applicant's representative on August 11, 2004. The Examiner requested that Applicant file a written Response to the outstanding Final Rejection repeating the arguments presented during the interview, and advised that he would carefully consider the arguments. In general, this Response clarifies and expands on arguments that were presented in the Response to Office Action filed on April 6, 2004.

Claims 1-8 remain pending in the present application. Claims 1 and 3 have been amended to correct typographical errors noted therein. No claims have been added and no claims have been canceled. Applicant sincerely believes that claims 1-8 patentably distinguish over the cited art and are allowable in their present form, and respectfully requests reconsideration of the rejection in view of the following comments.

I. 35 U.S.C. § 103, Obviousness

The Examiner has finally rejected claims 1-8 under 35 U.S.C. § 103(a) as being unpatentable over Mohan (U.S. Patent No. 5,418,940). This rejection is respectfully traversed.

Claim 1 reads as follows:

1. A method for logging updates to a plurality of data records into discrete pages in non-volatile storage, wherein a page partially full of data is known as a partial page, said method comprising the steps of:

establishing identical partial pages I and I+1 at the earliest opportunity, in response to a data segment D larger than the remaining space of a most recent updated partial page I, partitioning D into a first segment D1 sufficient to fill the remaining space of page I and a second data segment D2, filing page I with a first write operation of its present contents concatenated with D1, and

creating identical partial pages I+1 and I+2 with a single, second write operation of D2 to both pages, whereby pages I+1 and I+2 become the new pages I and I+1 for the next logging operation.

Thus, claim 1 is directed to a method for logging updates to a plurality of data records, and as described in the specification, the method can assist in preventing the

corruption of data written into a log during a logging operation, for example, as a result of a power failure.

In rejecting claim 1, the Examiner states, in part:

As per claim 1, Mohan discloses "a method for logging updates to a plurality of data records into discrete pages in nonvolatile memory storage" (see col. 1, lines 49-52).

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Applicant respectfully disagrees. Col. 1, lines 46-56 of Mohan reads as follows:

In a log based TMS, all changes to the pages are written to a log in the form of REDO and UNDO records. The physical log can be a reserved portion of DASD or a tape subsystem or the like. Now, REDO/UNDO records themselves are written to the log before writing any of the changed or modified pages back to their DASD storage locations. This is termed write ahead logging. These change records are used to either recreate or REDO a transaction that has progressed to a point of completion or roll back or UNDO a transaction that has failed to progress to that point.

As is apparent from the above recitation, Mohan is not related to, and does not disclose, a method for logging updates to a plurality of data records as recited in claim 1. Instead, Mohan relates to a method for detecting partial page write errors that occur during a data transfer. Although, as indicated in the above recitation, Mohan uses an existing log in the method described therein, the reference is not at all concerned with logging updates into the log. Mohan discloses only that "REDO/UNDO records themselves are written to the log before writing any of the changed or modified pages back to their DASD storage locations". Mohan does not discuss the process by which the records are written to the log, and certainly does not discuss problems that may occur in the process of writing the records to the log.

Because Mohan is not related to, and does not disclose a method for logging updates, and does not, in any way, recognize or discuss problems solved by the present invention; the present invention as recited in claim 1 cannot be obvious in view of Mohan as suggested by the Examiner.

In rejecting claim 1, the Examiner further states:

Mohan does not explicitly disclose "means responsive to a data segment D larger than the remaining space of a most recent updated partial page I," "for partitioning D into a first segment D1 sufficient to fill the remaining space of page I and a second data segment D2," "means for filling page I with a first write operation of its present contents concatenated with D1."

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The Examiner contends, however, after discussing the disclosure in Mohan:

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Mohan with "means responsive to a data segment D larger than the remaining space of a most recent updated partial page I," "for partitioning D into a first segment D1 sufficient to fill the remaining space of page I and a second data segment D2," "means for filling page I with a first write operation of its present contents concatenated with D1." Such modification would allow the teachings of Mohan to improve the accuracy and the reliability of the data logging method, apparatus, system and computer program, and to provide the list of the LSN of the latest log record written by each transaction, (see col. 7, lines 52-54).

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However, as indicated above, Mohan is not directed to a data logging method and is not concerned with problems that may occur when logging updates to a plurality of data records. Instead, Mohan is directed to detecting partial page write errors that occur during a data transfer, and uses an existing log in the method. Accordingly, it would not be obvious to one of ordinary skill in the art, having the Mohan disclosure before him, to consider modifying Mohan to achieve the present invention as proposed by the Examiner. Only the present application discusses a method for logging updates, and it would require the use of hindsight to even consider modifying Mohan to achieve the present invention as proposed by the Examiner.

Therefore, for the above reasons, as well as for the reasons discussed in detail in the Response to Office Action filed on April 6, 2004, claim 1 is not obvious in view of Mohan and should be allowable in its present form.

Independent claim 4 contains limitations similar to claim 1, and should also be allowable in its present form. Claims 2, 3 and 5-8 depend from and further restrict independent claims 1 or 4 and should also be allowable in their present form, at least by virtue of their dependency.

Therefore, the rejection of claims 1-8 under 35 U.S.C. § 103 has been overcome.

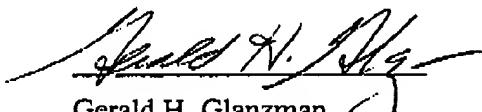
II. Conclusion

It is respectfully urged that the subject application is patentable over Mohan and is now in condition for allowance. It is, accordingly, respectfully requested that the Examiner so find and issue a Notice of Allowance in due course.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,



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